OMAN ELECTRICITY MARKET RULES

APPROVED METHODOLOGY

OFFER DERIVATION FROM CONTRACT TERMS PRINCIPLES

VERSION 4.0

EFFECTIVE DATE: 30/12/2021

1. INTRODUCTION

1.1 Scope, Purpose and Effectiveness of the Approved Methodology

Section J.3.4.2 of the Oman Electricity Market Rules (the Market Rules) requires the Power Procurer to prepare, as an Approved Methodology, a statement of general principles for Offer Derivation From Contract Terms to be applied to the conversion of relevant terms of a Non-Pool-Based Power Contract into Offer Data.

The Approved Methodology is termed the Offer Derivation From Contract Terms Principles.

This document is the Offer Derivation From Contract Terms Principles prepared by the Power Procurer in accordance with Section J.3.4.2 of the Market Rules and approved by the Authority on 16/6/2021.

This Approved Methodology is effective on and from **30/12/2021.**

1.2 Market Rules Provision

Interested parties should read this Approved Methodology in conjunction with the Market Rules and in particular Section J. This Approved Methodology has been produced in accordance with the provisions of the Market Rules. In the event of an inconsistency between the provisions of this Approved Methodology and the Market Rules, the provisions of the Market Rules shall prevail.

1.3 Review Procedure

The Power Procurer may review this Approved Methodology from time to time and make changes, subject to the Authority's approval in accordance with Market Rules Section C.7.3.

1.4 Definitions and interpretation

Save as expressly defined, words and expressions defined in the Market Rules shall have the same meanings when used in this Approved Methodology. The rules of interpretation set out in Section B.3 of the Market Rules shall apply in the interpretation of this Approved Methodology.

References to particular sections relate internally to this Approved Methodology unless specifically noted. References to Market Rules sections are to the relevant sections of the Market Rules.

1.5 Compliance with Approved Methodology

Compliance with this Approved Methodology is required under the terms as set out in the Market Rules. This Approved Methodology does not create any additional rights or obligations.

2. GENERAL PRINCIPLES FOR OFFER DERIVATION FROM CONTRACT TERMS

2.1 Application

The Offer Derivation From Contract Terms Principles set out in this document shall be applied in accordance with Section J.3.4.3 of the Market Rules to develop a specific methodology for Offer Derivation From Contract Terms for each Non-Pool-Based Contracted Production Facility (the Offer Derivation From Contract Terms Approach).

2.2 High-level principles

High level principles to be applied to the construction of Offer Data for Pool Units within Production Facilities with Non-Pool-Based Power Contracts are as follows:

(a) Offer Data shall, in accordance with applicable Licence or Exemption, reflect genuine expectations of the short-run marginal cost of generation in respect of a Trading Day, taking into account as appropriate Economic Fuel Prices for the Trading Day provided in accordance with the Market Rules;

(b) Offer Data shall reflect genuine expectations of technical capabilities in respect of a Trading Day d;

(c) where one or more terms of Non-Pool-Based Power Contracts are considered by the Power Procurer and the relevant Generator to be consistent with the requirements in paragraphs (a) and/or (b), then the relevant Non-Pool-Based Power Contracts terms shall, where applicable and subject to paragraph (e), form the basis of Offer Data;

(d) where one or more terms of Non-Pool-Based Power Contracts are not considered by the Power Procurer or the relevant Generator to be consistent with the requirements in paragraphs (a) and/or (b), then the relevant Non-Pool-Based Power Contracts terms shall not form the basis of Offer Data and Offer Data shall be defined through agreement between the Power Procurer and the Generator, subject to paragraph (e);

(e) in accordance with Section J.3.4.4 of the Market Rules, if a Pool Participant and the Power Procurer are unable to agree upon the specific methodology in respect of a Production Facility, the matter shall be referred to the Authority.

In applying the Offer Derivation From Contract Terms Principles, Pool Participants shall act in compliance with the conditions of the relevant Generation Licence or Exemption.

2.3 Specific elements to be considered in an Offer Derivation From Contract Terms Approach

2.3.1 Technical Offer Data

Where sub-paragraph (c) of section 2.2 applies for the relevant terms of a Non-Pool-Based Power Contract then those terms shall be used to inform the elements of Offer Data as follows:

(a) the minimum functional specification underlying the Non-Pool-Based Power Contract shall be translated into Offer Data.

(b) Fuel Type shall be consistent with the fuel or fuel types specified in the Non-Pool-Based Power Contract; and

(c) Offered Availability shall be consistent with the declared power capacity or scheduled power capacity in the Non-Pool-Based Power Contract.

Where sub-paragraph (c) of section 2.2 does not apply in respect of a Non-Pool-Based Power Contract term, that term shall not be used to inform Offer Data, and the principles listed in the appendix shall be utilised.

For each Transition the Output of the associated Production Block over the Transition Period shall be defined using the following Transition Technical Offer Data:

- Commence Transition Bank Time
- Middle Transition Bank Time
- Complete Transition Bank Time
- First Ramp Transition Ramp Time
- Second Ramp Transition Ramp Time
- Commence Transition Bank Output
- Middle Transition Bank Output
- Complete Transition Bank Output

2.3.2 Commercial Offer Data

Terms of a Non-Pool-Based Power Contract shall be used to inform the elements of Commercial Offer Data as follows:

(a) Capacity charge elements specified in the Non-Pool-Based Power Contract should not be incorporated into Commercial Offer Data;

(b) Actual Fuel Price shall be the fuel price referenced in the Non-Pool-Based Power Contract.

Where sub-paragraph (c) of section 2.2 applies for the relevant terms of a Non-Pool-Based Power Contract then those terms shall be used to inform the elements of Offer Data as follows:

(c) The annual contracted heat rate at reference conditions specified in the Non-Pool-Based Power Contract shall be translated to allow formation of the No Load Cost (Fuel Economic) and Price-Quantity Pairs for different levels of Output and across Production Units in different Configurations.

(d) Price (Non-Fuel) shall reflect those non-fuel related variable operation and maintenance charges that are dependent on electricity generated.

(e) Transition Cost (Fuel Economic) for Transitions involving a start shall reflect the power start fuel consumption rate specified in the Non-Pool-Based Power Contract.

(f) Transition Cost (Non-Fuel) for Transitions involving a start shall reflect the electrical energy start up charge rate specified in the Non-Pool-Based Power Contract.

Where sub-paragraph (c) of section 2.2 does not apply in respect of a Non-Pool-Based Power Contract term, that term shall not be used to inform Offer Data, and the principles listed in the appendix shall be utilised.

For each Transition the Transition Cost (Fuel Economic) and Transition Cost (Non-Fuel Economic) shall be consistent with the associated Production Block Output profile defined by the Transition Technical Offer Data.

APPENDIX - OFFER DERIVATION WHERE CONTRACT TERMS ARE NOT USED

The following table provides principles for the development of the Offer Derivation From Contract Terms Approach where sub-paragraph (c) of section 2.2 is not applicable.

<table>
<tr><th>Commercial/Technical Offer data element</th><th>Basis for offer data elements where sub-paragraph (c) of section 2.2 does not apply</th></tr>
<tr><td>Price-Quantity Pairs (Fuel Economic)</td><td rowspan="2">- Fuel consumption calculated from the Original Equipment Manufacturer (OEM) heat rate curves or fuel demand model or based upon test results.</td></tr>
<tr><td>No Load Cost (Fuel Economic)</td></tr>
<tr><td>PQ Pairs (Non Fuel)</td><td rowspan="2">- Cost of consumables and chemicals
- Cost of routine and long-term maintenance for maintaining equipment and facilities in satisfactory operating condition, including, where applicable maintenance contracts, spare parts (except capital spares) and labour cost.
- Labour cost associated to operation of the Production Facility.</td></tr>
<tr><td>No Load Cost (Non Fuel)</td></tr>
<tr><td>Transition Cost (Fuel Economic)</td><td>- Fuel consumption that can be established through an actual test or from OEM data.</td></tr>
<tr><td>Transition Cost (Non Fuel)</td><td>- Cost of consumables and chemicals
- Cost of consumption of power during transition
- Cost of the resulted equivalent operating hours for the Transition (as used for maintenance scheduling)
- Cost, Non Fuel component, as applicable for PQ Pairs and No-load costs</td></tr>
<tr><td>Nominated Quantity</td><td rowspan="6">These offer data elements always use either Generator’s forecast data (ex-ante) or actual data (ex-post)</td></tr>
<tr><td>Offered Availability</td></tr>
<tr><td>Under Test Flag</td></tr>
<tr><td>Under Test Activity State</td></tr>
<tr><td>Autogenerator Flag</td></tr>
<tr><td>Must Run Auxiliary Consumption</td></tr>
</table>

Minimum Output	These offer data elements use the OEM technical manuals or reflects the actual performance of the Production Unit.
Ramp Up Rate	
Ramp Down Rate	
Maximum On Time	
Minimum On Time	
Minimum Off Time	